



Public Consultation on Draft Interconnection Policy  
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## Public Consultation on Draft Electricity Interconnection Policy

Dear Sir, Madam,

Greenlink welcomes the DCCAE's consultation on Ireland's Electricity Interconnection Policy. As a developer of one of Ireland's PCI interconnectors we are fully supportive of further interconnection with Ireland's neighbours and the benefits that the exchange of electricity between them can bring to Ireland and society as a whole.

Our responses to the Public Consultation questions are provided below.

*1. What, if any, additional weighting should the CRU apply to security of supply considerations in its decision-making process?*

Greenlink considers the security of supply to be a pillar of Irish energy policy due to the fundamental importance that it represents to any developed economy for economic prosperity, minimising power costs, and particularly so to an island nation. Greenlink believes the CRU should attribute a high weighting to security of supply in its decision-making process.

It is widely recognised that interconnectors can make a positive contribution to security of supply and system reliability. Further interconnection is expected to increase the

competitiveness and sustainability of the electricity markets in Ireland and its neighbours:

- Interconnectors will enable Ireland and its neighbours to pool reserve capacity, reducing the future peaking plant requirement. Interconnectors will enhance security of supply by enabling system balancing arrangements to respond to different weather conditions between Ireland and North West Europe against the background of high intermittent renewable energy generation. For example, during particularly windy days, surplus power from Ireland could be exported to the UK, the Nordics and Continental European markets via Great Britain (“GB”). Conversely, low wind in Ireland allows interconnectors to import lower-cost power from the same European neighbours.
- Supply shocks can be offset by output in the neighbouring interconnected markets, improving security of supply. In real operational timescales, if there is an unplanned power station outage or fault at peak demand in either Ireland or its neighbours that results in voltage reductions and emergency demand controls or even partial blackout, interconnectors can be used by transmission system operators to mitigate these impacts and reduce the risks of further cascade tripping events.
- Ireland’s Capacity Market exists to ensure there is adequate supply or load-management capacity on the grid to cope with times of system stress. Interconnectors are well placed to participate in the Capacity Market auctions (after applying an appropriate de-rating factor) to provide low-cost capacity, adding to security of supply for SEM electricity consumers or allowing the same level of security of supply to be achieved but with reduced investments in power generation capacity.
- Ireland’s location on the north west edge of Europe limits its options for economic interconnection. Geographically GB lies between Ireland and continental Europe representing a cost-effective stepping stone to European and Nordic energy markets. Further interconnection with GB provides the option to connect to European markets avoiding the need for lengthy and uneconomical direct cable routes. Connecting via GB allows decreased capital costs for similar transmission capacity thereby providing additional security of supply to Irish consumers at lower cost. The shorter connections via GB are also subject to lower energy transmission losses and are less liable to accidental damage with associated interruptions and reduced security of supply.
- Ireland continues to attract significant inward investment, especially from data centre construction by the main global technology companies. Given the nature of this energy demand, secure and reliable electricity supply is critical. This important investment for the benefit of Ireland’s economy may

not be directly relevant to the CRU's criteria in assessing the merits of additional interconnection, however, the significant additional strain that it will put onto the country's network, from what could be an additional 1.2GW of demand, brings into much sharper focus the potential negative impact on security of supply and upward pressure on electricity prices in the absence of additional interconnection.

*2. What, if any, additional weighting should the CRU apply to diversity of supply considerations in its decision-making process?*

Maintaining a diverse supply of electricity sources protects consumers from overreliance on one source and the resulting risk of price volatility. Additional interconnection to GB provides an alternative means of electricity supply to Ireland, thereby increasing diversity and encouraging further diversity in indigenous sources of power as noted below.

Interconnectors are broadly fuel agnostic and rely on generators and suppliers contracting capacity (applying the European network codes) to transmit power across borders to link pools of supply and demand. The prospect of further interconnection capacity will provide external pricing signals to inform a power developer's investment decision on their selection of future generation technologies.

Ireland has successfully adopted fiscal measures to stimulate the development of numerous low-carbon technologies to meet the country's environmental targets. This has seen a significant transition in Ireland's energy mix over the last ten years which is forecast to continue. Interconnection plays an important role in reducing the fiscal cost of renewable support schemes and can contribute to the diversity of supply through:

- Reducing curtailment
- Providing access to higher priced markets
- Increasing the addressable market size

Interconnection therefore has clear cost benefits for Irish consumers, as well as the wider economic benefits of inward investment in electricity infrastructure. In this context additional interconnection is expected to provide stimulus to Ireland's nascent offshore wind industry. Offshore wind has the potential to materially increase the renewable generation base and further diversify Ireland's supply.

Greenlink considers the diversity of supply an important component of Irish energy policy and believes the CRU should attribute a medium to high weighting in its decision-making process.

3. Should the CRU take EU interconnection targets into account in its evaluation? If so, how?

The EU's recent Communication on strengthening Europe's energy networks<sup>1</sup> reiterates "an interconnected European grid will help deliver the ultimate goals of the Energy Union to ensure affordable, secure and sustainable energy to all Europeans".

Greenlink has long-held the opinion that the EU interconnection targets of a fixed percentage is too unsophisticated a factor to be taken into account in the evaluation of new interconnection by the national regulatory authorities. This position has also been taken by the European Commission Expert Group on electricity interconnection targets (the "Expert Group") in their report published in November 2017<sup>2</sup> ("the Report"). The Expert Group states its belief '*that the current interconnection target of 10% by 2020 has already given an important signal to the integration of the electricity markets..*' but '*...acknowledges that the target was set in a radically different energy era when variable renewable energy comprised only a small share of total generation*'.

The Report goes on to state that '*to address the new energy reality, the Expert Group proposes a new approach for setting interconnection targets based on the underlying principle of maximising societal welfare*'. The Expert Group identifies a number of factors as being important considerations in the context of interconnection with other 'Member States'. Greenlink concurs that these factors should be considered by regulators in all circumstances but also applied to the host country and its closet neighbours. The Report concludes '*as a condition sine qua non*' that each new interconnector must be implemented *only* if the potential benefits outweigh the costs based on a cost benefit analysis – suggesting that the target of itself is a subsidiary factor.

National targets for interconnection are not necessarily the most relevant or important measure. In Ireland the key metric is the connectivity of synchronous zone of the whole of the island of Ireland, covered by the SEM (soon I-SEM) to other power markets and other synchronous areas in Europe.

For example, the island of Ireland theoretically could be isolated from its neighbours if there were no interconnectors except between the Republic and Northern Ireland (i.e. no Moyle or EWIC); and yet if there was massive interconnection between the Northern Ireland and the Republic of Ireland then EU targets would be met, however, this would reflect the only the form but not the substance of the EU policy objectives.

The EU targets are the same for all Member States irrespective of their geographic location giving rise to certain challenges for regions, with few borders, sitting at the perimeter of Europe such as the Iberian Peninsula, the Balkan states and Ireland in the

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<sup>1</sup> COM (2017) – 718 -

[https://ec.europa.eu/energy/sites/ener/files/documents/communication\\_on\\_infrastructure\\_17.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/communication_on_infrastructure_17.pdf)

<sup>2</sup>[https://ec.europa.eu/energy/sites/ener/files/documents/report\\_of\\_the\\_commission\\_expert\\_group\\_on\\_electricity\\_interconnection\\_targets.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/report_of_the_commission_expert_group_on_electricity_interconnection_targets.pdf)

event the UK exits the Internal Energy Market – hence the recognition of the need to consider other factors as noted above.

GB's location between Ireland and continental Europe renders it a natural stepping stone to the European and Nordic markets. It would be illogical for Ireland to only connect to other Member States simply to meet uneconomic targets and the Expert Group is clearly of the same opinion. The natural conclusion is also that new interconnection that meets other positive factors identified in the Report should proceed irrespective of where it is connected to. The United Kingdom's adoption of the EU network codes is aligned with regulation in Ireland and ensures that the GB network provides a transparent and open access system to provide efficient dispatch of interconnectors and transmission of electricity across GB.

*4. What impact does EU Policy and the EU's Clean Energy Package for all Europeans have on electricity interconnection to Ireland? Are there any other EU/national legislation or policy objectives that should be considered?*

Ireland's legally binding renewable energy share ("RES") target of 16% for 2020 does not appear achievable. SEAI and the EPA estimate a shortfall of 2.8 p.p. leaving Ireland with a possible multimillion-euro bill for 'credits' or statistical transfers it will need to buy to make up the difference.

Further interconnection can address this issue by providing developers of renewable energy sources the potential to export their surplus production to larger pools of demand and potentially at a higher price rather than being curtailed. This incremental revenue stream can provide the return required for developers to invest in new renewable technologies. Ireland's significant offshore wind represents an untapped resource of great potential to Ireland's broader economy and would provide a step-change to achieving Ireland's RES targets. Further interconnection could provide the transition to the development of affordable offshore wind consistent with the EU's North Seas Countries' Offshore Grid Initiative in 2009<sup>3</sup>.

The EU renewable energy target for 2030 is between 27% and 35%, a large increase from the 2020 target which would require levels of renewables as set out in EirGrid's Low Carbon Living scenario. Such a level of renewables will only be technically and economically achievable with more interconnection to Ireland.

*5. Are there any gaps in the policy backdrop outlined in this paper?*

The Irish economy benefits significantly from inward investment in the digital economy including the construction and operation of new data centres and associated internet related business activities. Decisions on data centre siting are based increasingly on the

<sup>3</sup> <https://ec.europa.eu/energy/en/topics/infrastructure/north-seas-energy-cooperation>

availability of clean energy. With additional interconnection Ireland will further decrease the carbon intensity of its electricity generation as interconnectors allow (i) an increased penetration of renewables by reducing the time that the System Non-Synchronous Penetration limit applies allowing more wind (and in the future solar) generation and (ii) peak demand to be met during low wind periods with low carbon imports as opposed to higher carbon local generation.

*6. Are there any gaps in the evidence base outlined in this paper?*

*7. Is there anything else we need to consider as we set about finalising a national policy statement on electricity interconnection?*

The maximum Irish power system infeed loss is currently 500MW. It is proposed to develop the 700MW Celtic Interconnector, in which case the maximum infeed loss would need to be increased. The additional costs of operating the system with a 700MW infeed loss is the same regardless of the number of interconnectors (or other generation in-feeds) connected to the Irish grid. If this additional system operation cost is to be incurred, it is imperative that the decision process and timing is transparent so that other projects can make informed investment decisions based on this policy decision and have the option to design and build to a higher rating, thereby improving the overall economic benefits of further interconnection to Irish consumers.

New technology adopted by the major providers of HVDC systems used by interconnectors allows for rapid ramping of power levels to grid networks and the fast switching of direction of power flows. This technical capability is above the current observed levels and would allow Irish energy generators to increase their export of surplus power generation and potentially reduce curtailment costs to Irish consumers. Rapid ramping rates also increase an interconnector's ability to provide ancillary services to grid operators in times of system stress for no increased cost and therefore improve security of supply.

Please do not hesitate to get in touch should you wish to discuss any aspect of this response.

Yours sincerely

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